IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of — Atty. Docket

ROBERT A. BARNES ET AL. — PHN 17,661

Serial No.: 09/675,251 — Group Art Unit: 2614

Filed: September 29, 2000 — Examiner: M. Lee

PICTURE SIGNAL PROCESSING

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

# APPEAL BRIEF

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(i) Real Party in Interest

The real party in interest in this application is U.S. PHILIPS CORPORATION, a wholly owned subsidiary of KONINKLIJKE PHILIPS ELECTRONICS N.V., by virtue of an assignment from the inventors recorded on September 29, 2000, at Reel 011192, Frame 0596.

(ii) Related Appeals and Interferences

There are no other appeals and/or interferences related to this application.

(iii) Status of Claims

Claims 1-4, 6-8 and 10 stand finally rejected by the Examiner. Claims 5, 9 and 11-13 have been allowed. Appellants are appealing the rejection of claims 1-4, 6-8 and 10.

(iv) Status of Amendments

There was one Response filed on March 20, 2006, after final rejection of the claims on February 22, 2006, this Response having been considered by the Examiner.

(v) Summary Of Claimed Subject Matter

The subject invention relates to a method and apparatus for supplying an analog picture signal and a quality indication relating to the analog picture signal, as well as to a method and apparatus for receiving the analog picture signal and the quality indication, and for processing the analog picture signal in dependence on the quality indication.

The invention is based on the recognition that sending a quality indication with an analog picture signal allows a TV to determine the characteristics of the source material and, hence, make an informed selection of algorithm. A better picture quality will result from the application of a more appropriate processing to the signal. Giving a picture signal processing unit the information it needs to enable it to do the appropriate optimization, prevents it from "optimizing" a picture that is already OK, or from "optimizing" it in the wrong way. For example, if the quality of the analog picture signal is low, because the digital picture signal from which the analog picture signal has been retrieved had been encoded at a low quantization level, a low bit-rate and/or a high compression ratio, a picture signal enhancement operation, such as, a peaking or histogram operation to improve sharpness and/or contrast, would only render the blocking artifacts more visible. So, if the quality indication indicates a low quality, a peaking operation is preferably switched off. On the other hand, mosquito noise present in a low-quality signal could be

reduced by appropriately adjusting a noise reduction operation forming part of the picture signal processing PSP in dependence upon the quality indication. The TV can accommodate different sources, with different (and possibly dynamically changing) signal qualities.

The subject invention relates to a method and an apparatus for processing picture signals. In particular, the subject invention, as claimed in claim 1, includes "receiving an analog picture signal and a quality indication relating to the analog picture signal". This is shown in the Figure, and described in the Substitute Specification on page 3, line 18 to page 4, line 7, in which a television receiver TV includes inputs for the analog picture signals APS1, APS2 and the corresponding quality indications QI1, QI2, the analog picture signals being applied to inputs of switch S1 and the quality indications to the inputs of switch S2.

In addition, the subject invention, as claimed in claim 1, includes "processing the analog picture signal in dependence on the quality indication". This is shown in the Figure, and described in the Substitute Specification on page 4, lines 7-13, in which the selected analog picture signal is applied to picture signal processor PSP, while the selected quality indication is applied to a picture signal control PSC for controlling the picture signal processor PSP in dependence on the selected quality indication.

Similarly, the subject invention, as claimed in claim 6 includes "means for receiving an analog picture signal and a quality indication relating to the analog picture signal". This is

shown in the Figure, and described in the Substitute Specification on page 3, line 18 to page 4, line 7, in which a television receiver TV includes inputs for the analog picture signals APS1, APS2 and the corresponding quality indications QI1, QI2, the analog picture signals being applied to inputs of switch S1 and the quality indications to the inputs of switch S2.

In addition, the subject invention, as claimed in claim 6, includes "means for processing the analog picture signal in dependence on the quality indication". This is shown in the Figure, and described in the Substitute Specification on page 4, lines 7-13, in which the selected analog picture signal is applied to picture signal processor PSP, while the selected quality indication is applied to a picture signal control PSC for controlling the picture signal processor PSP in dependence on the selected quality indication.

The subject invention further relates to a method and device for supplying a picture signal. To that end, the subject invention, as claimed in claim 8, includes "supplying an analog picture signal". This is shown in the Figure, and described in the Substitute Specification on page 2, lines 18-25, in which a record player RP applies a digital video signal to a decoder DEC1 which supplies therefrom an analog picture signal.

In addition, the subject invention, as claimed in claim 8, includes "supplying a quality indication relating to the analog picture signal". This is shown in the Figure, and described in the Substitute Specification on page 3, lines 1-4, in which the decoder

DEC1 also supplies a quality indication relating to the analog picture signal. As described in the Substitute Specification on page 3, lines 4-11, "the first quality indication QI1 is the bit-rate and/or the compression ratio and/or the quantization level at which the digital picture signal has been encoded and/or other information about the encoding or decoding, such as information about the level of compression via inverse quantization process and/or quantizer matrix (for intra and non-intra pictures) when the default ones are not used and/or intra-dc-precision and/or information when a decoding error happened."

Similarly, as claimed in claim 10, the subject invention includes "means for supplying an analog picture signal". This is shown in the Figure, and described in the Substitute Specification on page 2, lines 18-25, in which a record player RP applies a digital video signal to a decoder DEC1 which supplies therefrom an analog picture signal.

The subject invention further includes, as claimed in claim 10, "means for supplying a quality indication relating to the analog picture signal". This is shown in the Figure, and described in the Substitute Specification on page 3, lines 1-4, in which the decoder DEC1 also supplies a quality indication relating to the analog picture signal. As described in the Substitute Specification on page 3, lines 4-11, "the first quality indication QI1 is the bit-rate and/or the compression ratio and/or the quantization level at which the digital picture signal has been encoded and/or other information about the encoding or decoding, such as information

about the level of compression via inverse quantization process and/or quantizer matrix (for intra and non-intra pictures) when the default ones are not used and/or intra-dc-precision and/or information when a decoding error happened."

(vi) Grounds of Rejection to be Reviewed on Appeal

(A) Whether the invention, as claimed in claims 1-4, 6-8 and 10, is anticipated, under 35 U.S.C. 102(e), by U.S. Patent 6,078,360 to Doornhein et al.

(vii) Arguments

(A) The Rejection Under 35 U.S.C. 102(e) Over Doornhein et al.

35 U.S.C. 102(e) states:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The Doornhein et al. patent discloses a television signal comprising additional data, in which along with a television signal, an additional data signal, comprising static control information bits pertaining to properties of the television signal, is transmitted, received and used by the receiver in processing the corresponding television signal. One property of the television signal specifically disclosed by Doornhein et al. is that the additional data signal denotes the aspect ratio of the television signal.

(1) Claims 1-4, 6 and 7

The subject invention, as claimed in claim 1, includes "receiving an analog television signal along with a quality indication relating to the analog picture signal" and "processing the analog picture signal in dependence on the quality indication".

Similarly, as claimed in claim 6, the subject invention includes "means for receiving an analog picture signal and a quality indication relating to the analog picture signal" and "means for processing the analog picture signal in dependence on the quality indication".

The Examiner states "In column 4, lines 25-28, Doornhein disclose a format conversion for converting a television image with aspect ratio 4:3 to aspect ratio 16:9 in accordance with the aspect ratio control information. The conversion obviously changes the resolution of the original image because some pixels are either added or deleted in the final image signal. Since the conversion is depended on the aspect ratio information, a quality indication signal, Doornhein clearly meets the claimed invention."

As noted in MPEP § 2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Appellants submit that the Examiner is only partially correct, i.e., while Doornhein et al. shows an additional signal being sent with the picture signal, and the picture signal being processed in dependence on the additional signal, Doornhein et al. neither shows

or suggests that the additional signal is a "quality indication relating to the analog picture signal."

According to U.S. standards, all HDTV signals are widescreen (16:9), and as such, any signal of 4:3 aspect ratio is a "standard signal". Appellants would like to point out, however, that these so-called standard signals may be broadcast in either the standard aspect ratio (4:3) or in widescreen (16:9). In particular, DVDs are currently available having the same programming in both standard aspect ratio (4:3) as well as widescreen (16:9). It should be noted that DVDs are not HDTV.

Hence, Appellants submit that the additional data signal indicating the aspect ratio of an accompanying video signal of Doornhein et al., does not in itself convey "a quality indication relating to the analog picture signal" as specifically claimed in claim 1, but rather, the additional data signal indicating aspect ratio is an **attribute** indication which indicates an attribute of the analog picture signal.

As indicated in the Substitute Specification on page 3, lines 4-11:

> "Preferably, the first quality indication QI1 is the bit-rate and/or the compression ratio and/or the quantization level at which the digital picture signal has been encoded and/or other information about the encoding or decoding, such as information about the level of compression via inverse quantization process and/or quantizer matrix (for intra and non-intra pictures) when the default ones are not used and/or intra-dc-precision and/or information when a decoding error happened."

As such, the "quality indication" is directly related to the quality of the analog picture signal. Further, as indicated in the

Substitute Specification on page 4, line 16 to page 5, line 13, by receiving a quality indication along with the analog picture signal, a television is able to generate a better picture quality in that more appropriate processing of the analog picture signal will be performed.

(2) Claims 8 and 10

The Examiner has not proffered any arguments against patentability specifically directed to claims 8 and 10.

Claims 8 and 10 related to a method and apparatus for supplying a picture signal, and include "supplying an analog picture signal" and "supplying a quality indication relating to the analog picture signal".

As indicated above, the Doornhein et al. patent discloses generating and transmitting with a television signal, static control information bits pertaining to properties of the television signal. One property of the television signal specifically disclosed by Doornhein et al. is that the additional data signal denotes the aspect ratio of the television signal. It should be noted that Doornhein et al. further discloses generating an additional signal to be combined with the static control information bits, this additional signal indicating a level of violence and/or sex in the accompanying television signal (col. 3, lines 36-38), or for indicating copyright information for selectively controlling the viewing of the accompanying television signal (col. 3, lines 56-61).

As explained above, Appellants submit that neither the static control information bits nor the additional signal of Doornhein et al. is "a quality indication relating to the analog picture signal". The aspect ratio of a television signal and the level of violence and/or sex in a television signal are attributes of the television signal (or of the programming contained in the television signal). However, these are not quality indications of the television signal.

Based on the above arguments, Appellants believe that the subject invention is neither anticipated nor rendered obvious by the prior art and is patentable thereover. Therefore, Appellants respectfully request that this Board reverse the decisions of the Examiner and allow this application to pass on to issue.

Respectfully submitted,

by __/Edward W. Goodman/_____
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Attorney

(viii) Claims Appendix

1. (Previously Presented) A picture signal processing method comprising the steps:

receiving an analog picture signal and a quality indication relating to the analog picture signal; and

processing the analog picture signal in dependence on the quality indication.

2. (Previously Presented) The method as claimed in claim 1, wherein the processing step includes a picture enhancement operation.

3. (Previously Presented) The method as claimed in claim 2, wherein the picture enhancement operation is a sharpness and/or contrast improving operation.

4. (Previously Presented) The method as claimed in claim 2, wherein the picture enhancement operation is a noise or encoding artifact reduction operation.

6. (Previously Presented) A picture signal processing device, comprising:

means for receiving an analog picture signal and a quality indication relating to the analog picture signal; and

means for processing the analog picture signal in dependence on the quality indication.

7. (Previously Presented) A television receiver comprising:

the picture signal processing device as claimed in claim 6 for furnishing a processed picture signal; and

means for displaying the processed picture signal.

8. (Previously Presented) A picture signal supplying method comprising the steps:

supplying an analog picture signal; and

supplying a quality indication relating to the analog picture signal.

10. (Previously Presented) A picture signal supplying device, comprising:

means for supplying an analog picture signal; and

means for supplying a quality indication relating to the analog picture signal.

(ix) Evidence Appendix

There is no evidence which had been submitted under 37 C.F.R. 1.130, 1.131 or 1.132, or any other evidence entered by the Examiner and relied upon by Appellant in this Appeal.

(x) Related Proceedings Appendix

Since there were no proceedings identified in section (ii) herein, there are no decisions rendered by a court or the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of 37 C.F.R. 41.37.